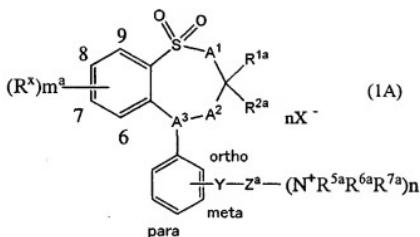


AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A compound represented by the following formula (1A):



wherein,

R^{1a} and R^{2a} may be the same as or different from each other and each represents alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms;

m^a is an integer of 0 to 4;

R^x represents halogen atom, nitro group, amino group, cyano group, hydroxy group, carboxy group, $-NR^3R^4$ where R^3 and R^4 may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms, $-CONH_2$, $-SO_3H$, $-NR^3R^4$, R^3 and R^4 may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms, alkyl

group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms; wherein the alkyl group, the alkenyl group and the alkynyl group may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, -CONH₂ and -SO₃H; one or more methylenes which constitute the alkyl group, the alkenyl group and the alkynyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene, -O-, -S-, -CO₂-, -NHCO-, -NR^{8a}-, and -N⁺W^{a-}R^{9a}R^{10a}-,

R^{8a} represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms; the alkyl group and the alkenyl group in R^{8a} may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl,

R^{9a} and R^{10a} may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, and may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl, and

W^{a-} represents a counteranion;

the combination of (A¹, A², A³) represents (CH₂, CH(OH), CH); Y represents any of -NHCS-, -NHCSNH- or -NHCSO-, wherein -NH of -NHCS- represents a bond which binds to the adjacent benzene

ring and CS- represents a bond which binds to the adjacent Z^a, and -NH of -NHCSO- represents a bond which binds to the adjacent benzene ring and CSO- represents a bond which binds to the adjacent Z^a;

Z^a-(N⁺R^{5a}R^{6a}R^{7a})_n represents an alkyl group or alkenyl group having 2 to 10 carbon atoms which is substituted with -N⁺R^{5a}R^{6a}R^{7a}, the number of the substituents being n; wherein one or more methylenes which constitute Z^a may be replaced with any of phenylene which may have a substituent or -O-; wherein the substitutent(s) in the phenylene which may have the substitutent are 1 to 4 substitutents selected from the group consisting of alkyl groups having 1 to 5 carbon atoms, alkoxy groups having 1 to 5 carbon atoms, nitro group, halogen atoms, trifluoromethyl group and -CH₂N⁺R^{5a}R^{6a}R^{7a}; wherein the substitutents may be the same as or different from each other; and wherein n is an integer of 1 or 2; and

each of N⁺R^{5a}R^{6a}R^{7a} is independently any of the following I), II) or III):

I) R^{5a}, R^{6a} and R^{7a} may be the same as or different from one another, and each represents alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms; wherein the alkyl group, the alkenyl group and the alkynyl group may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, piperidyl, pyrrolidyl, morpholyl, cycloalkyl

having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, -CONH₂ and -SO₃H; and wherein one or more methylenes which constitute the alkyl group, the alkenyl group and the alkynyl group may be replaced with any of phenylene, thiophene, furlylene, cyclohexylene, cyclopentylene, -O-, -S-, -CO₂-, -NHCO-, -NR⁸-, and -N⁺W⁻R⁹R¹⁰-,

R⁸ represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, the alkyl group and the alkenyl group in R⁸ may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl,

R⁹ and R¹⁰ may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, and may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl, and

W represents a counteranion;

II) N⁺R^{5a}R^{6a}R^{7a} represents a monocyclo or bicyclo ring formed of 4 to 9 carbon atoms in addition to the ammonium nitrogen atom, with a proviso that a position of binding to Z^a is the ammonium nitrogen atom; wherein, in the monocyclo and bicyclo rings, one of the carbon atoms which constitutes the ring may be replaced with any of oxygen, nitrogen or sulfur atom; and the monocyclo and bicyclo rings may be substituted with one or more groups of hydroxy, oxo, thioxo, cyano, phenyl, naphthyl, thiophene, pyridyl, cycloalkyl having 3 to 7 carbon atoms, carboxy, -CONH₂,

-SO₃H and -R¹¹,

R¹¹ represents alkyl group having 1 to 8 carbon atoms or alkenyl group having 2 to 8 carbon atoms, the alkyl group and the alkenyl group in R¹¹ may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, -CONH₂ and -SO₃H; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene, -O-, -S-, -CO₂-, -NHCO-, -NR⁸-, and -N⁺W⁹R¹⁰; R⁸, R⁹, R¹⁰ and W⁹ are the same as the above; and the group which is not involved in the formation of the monocyclo ring and the bicyclo ring in R^{5a}, R^{6a} and R^{7a} is the same as the above I); and

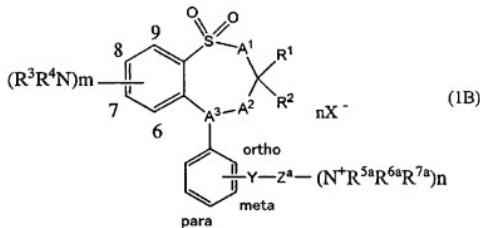
III) N⁺R^{5a}R^{6a}R^{7a} represents a pyridinium ring, a quinolinium ring or an isoquinolinium ring with a proviso that a position of binding to Z^a is the ammonium nitrogen atom; wherein the pyridinium ring, the quinolinium ring and the isoquinolinium ring may be substituted with one or more groups of cyano, nitro, phenyl, naphthyl, thienyl, pyridyl, cycloalkyl having 3 to 7 carbon atoms, alkoxy having 1 to 5 carbon atoms, carboxy, -CONH₂, -SO₃H, halogen, hydroxy, tetrahydropyranyl and -R^{12a},

R^{12a} represents alkyl group having 1 to 9 carbon atoms or alkenyl group having 2 to 9 carbon atoms, the alkyl group and the alkenyl group in R^{12a} may be substituted with one or more

groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, -CONH₂ and -SO₃H; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene, -S-, -O-, -CO₂-, -NHCO-, -NR⁸-, and -N⁺WR⁹R¹⁰-;

R⁸, R⁹, R¹⁰ and W⁻ are the same as the above; and X⁻ represents a counteranion.

2. (previously presented) A compound represented by the following formula (1B):



wherein,

R¹ and R² may be the same as or different from each other and each represents alkyl group having 1 to 10 carbon atoms;

m is an integer of 1 or 2;

R³ and R⁴ may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms;

the combination of (A^1 , A^2 , A^3) represents (CH_2 , $CH(OH)$, CH);

Y represents any of $-NHCS-$, $-NHCSNH-$ or $-NHCSO-$, wherein $-NH$ of $-NHCS-$ represents a bond which binds to the adjacent benzene ring and $CS-$ represents a bond which binds to the adjacent Z^a , and $-NH$ of $-NHCSO-$ represents a bond which binds to the adjacent benzene ring and $CSO-$ represents a bond which binds to the adjacent Z^a ;

$Z^a-(N^+R^{5a}R^{6a}R^{7a})_n$ represents an alkyl group or alkenyl group having 2 to 10 carbon atoms which is substituted with $-N^+R^{5a}R^{6a}R^{7a}$, the number of the substituents being n; wherein one or more methylenes which constitute Z^a may be replaced with any of phenylene which may have a substituent or $-O-$; wherein the substituent(s) in the phenylene which may have the substituent are 1 to 4 substituents selected from the group consisting of alkyl groups having 1 to 5 carbon atoms, alkoxy groups having 1 to 5 carbon atoms, nitro group, halogen atoms, trifluoromethyl group and $-CH_2N^+R^{5a}R^{6a}R^{7a}$; wherein the substituents may be the same as or different from each other; and wherein n is an integer of 1 or 2; and

each of $N^+R^{5a}R^{6a}R^{7a}$ is independently any of the following I), II) or III):

I) R^{5a} , R^{6a} and R^{7a} may be the same as or different from one another, and each represents alkyl group having 1 to 10 carbon atoms, alkenyl group having 2 to 10 carbon atoms or alkynyl group having 2 to 10 carbon atoms; wherein the alkyl

group, the alkenyl group and the alkynyl group may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, -CONH₂ and -SO₃H; and wherein one or more methylenes which constitute the alkyl group, the alkenyl group and the alkynyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene, -O-, -S-, -CO₂-, -NHCO-, -NR⁸-, and -N'W'R⁹R¹⁰-,

R⁸ represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, the alkyl group and the alkenyl group in R⁸ may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl,

R⁹ and R¹⁰ may be the same as or different from each other and each represents alkyl group having 1 to 5 carbon atoms or alkenyl group having 2 to 5 carbon atoms, and may be substituted with one or more groups of phenyl, cycloalkyl having 3 to 7 carbon atoms and hydroxyl, and

W⁻ represents a counteranion;

II) N^rR^{5a}R^{6a}R^{7a} represents a monocyclo or bicyclo ring formed of 4 to 9 carbon atoms in addition to the ammonium nitrogen atom, with a proviso that a position of binding to Z^a is the ammonium nitrogen atom; wherein, in the monocyclo and bicyclo rings, one of the carbon atoms which constitutes the ring may be replaced with any of oxygen, nitrogen or sulfur atom; and the

monocyclo and bicyclo rings may be substituted with one or more groups of hydroxy, oxo, thioxo, cyano, phenyl, naphthyl, thienyl, pyridyl, cycloalkyl having 3 to 7 carbon atoms, carboxy, -CONH₂, -SO₃H and -R¹¹,

R¹¹ represents alkyl group having 1 to 8 carbon atoms or alkenyl group having 2 to 8 carbon atoms, the alkyl group and the alkenyl group in R¹¹ may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, piperidyl, pyrrolidyl, morpholyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, -CONH₂ and -SO₃H; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thienylene, furylene, cyclohexylene, cyclopentylene, -O-, -S-, -CO₂-, -NHCO-, -NR⁸-, and -N⁺W⁻R⁹R¹⁰; R⁸, R⁹, R¹⁰ and W⁻ are the same as the above; and the group which is not involved in the formation of the monocyclo ring and the bicyclo ring in R^{5a}, R^{6a} and R^{7a} is the same as the above I); and

III) N⁺R^{5a}R^{6a}R^{7a} represents a pyridinium ring, a quinolinium ring or an isoquinolinium ring with a proviso that a position of binding to Z^a is the ammonium nitrogen atom; wherein the pyridinium ring, the quinolinium ring and the isoquinolinium ring may be substituted with one or more groups of cyano, nitro, phenyl, naphthyl, thienyl, pyridyl, cycloalkyl having 3 to 7 carbon atoms, alkoxy having 1 to 5 carbon atoms, carboxy, -CONH₂, -SO₃H, halogen, hydroxy, tetrahydropyranyl and -R^{12a},

R^{12a} represents alkyl group having 1 to 9 carbon atoms or alkenyl group having 2 to 9 carbon atoms, the alkyl group and the alkenyl group in R^{12a} may be substituted with one or more groups of phenyl, naphthyl, pyridyl, quinolyl, thienyl, furyl, cycloalkyl having 3 to 7 carbon atoms, cyano, nitro, hydroxy, oxo, thioxo, carboxy, $-CONH_2$ and $-SO_3H$; and one or more methylenes which constitute the alkyl group and the alkenyl group may be replaced with any of phenylene, thiophenylene, furylene, cyclohexylene, cyclopentylene, $-S-$, $-O-$, $-CO_2-$, $-NHCO-$, $-NR^8-$, and $-N^+W^-R^9R^{10}-$;

R^8 , R^9 , R^{10} and W^- are the same as the above; and

X^- represents a counteranion.

3-9. (canceled)

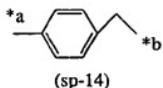
10. (previously presented) A pharmaceutical composition containing the compound according to claim 1 as an active component.

11-21. (canceled)

22. (previously presented) A pharmaceutical composition containing the compound according to claim 2 as an active component.

23-40. (canceled)

41. (previously presented) The compound according to claim 2 wherein Y represents -NHCSNH- at meta position, and Z^a represents the following formula (sp-14):



wherein *a binds to Y and *b binds to N⁺R^{5a}R^{6a}R^{7a} in the formula (1B).

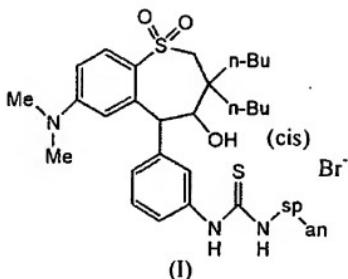
42. (previously presented) The compound according to claim 41 wherein R¹ and R² may be the same as or different from each other and each represents straight alkyl groups having 2 to 6 carbon atoms, and wherein (R³R⁴N)_m represents any of dimethylamino group substituted at position 7, diethylamino group substituted at position 7, ethylmethylamino group substituted at position 7, dimethylamino group substituted at position 9 and dimethylamino groups substituted at two positions 7 and 9.

43. (previously presented) The compound according to claim 42 wherein (R³R⁴N)_m represents any of dimethylamino group substituted at position 7, diethylamino group substituted at position 7 or ethylmethylamino group substituted at position 7, and wherein N⁺R^{5a}R^{6a}R^{7a} represents a group selected from the group

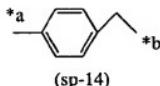
consisting of:

4-t-butylpyridinium;
3-(3-hydroxypropyl)-pyridinium;
3-[2-(methoxycarbonyl)ethyl]-pyridinium;
2-(n-propyl)-pyridinium;
4-phenylquinuclidinium; and
1,4-diazabicyclo[2.2.2]octanium.

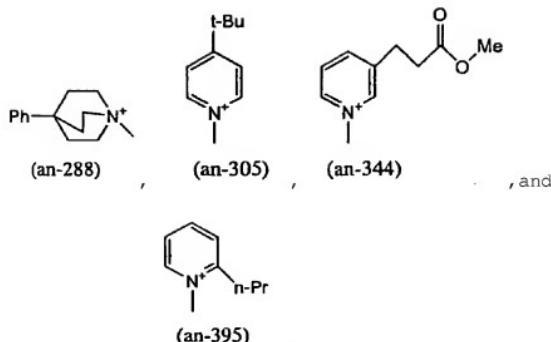
44. (previously presented) A compound represented by the following formula (I):



wherein (sp) is the following formula (sp-14)



wherein *a binds to -NHCSNH- and *b binds to (an); and (an) is selected from the group consisting of:



45. (previously presented) The compound according to claim 44 wherein (sp) is the formula (sp-14), and (an) is the formula (an-288).

46-48. (canceled)

49. (previously presented) A pharmaceutical composition containing the compound according to claim 41 as an active component.

50-51. (canceled)

52. (previously presented) A pharmaceutical composition containing the compound according to claim 42 as an active component.

53-54. (canceled)

55. (previously presented) A pharmaceutical composition containing the compound according to claim 43 as an active component.

56-57. (canceled)

58. (previously presented) A pharmaceutical composition containing the compound according to claim 44 as an active component.

59-60. (canceled)

61. (previously presented) A pharmaceutical composition containing the compound according to claim 45 as an active component.

62-72. (canceled)

73. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 1 as an active

component.

74. (previously presented) A method for treating any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 1 as an active component.

75. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 2 as an active component.

76. (previously presented) A method for treating any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 2 as an active component.

77. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 41 as an active component.

78. (previously presented) A method for treating any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 41 as an active component.

79. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 42 as an active component.

80. (previously presented) A method for treating any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 42 as an active component.

81. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 43 as an active component.

82. (previously presented) A method for treating any of

hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 43 as an active component.

83. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 44 as an active component.

84. (previously presented) A method for treating any of hyperlipemia, arteriosclerosis or syndrome X, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 44 as an active component.

85. (previously presented) A method of lowering cholesterol, comprising administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 45 as an active component.

86. (previously presented) A method for treating any of hiperlipemia, arteriosclerosis or syndrome X, comprising

administering to a patient in need thereof an effective amount of a pharmaceutical composition containing the compound according to claim 45 as an active component.